USSR

KOMAROV, O. S.

"Crystallization of Cast Iron with Spheroidal Graphite"

Moscow, Izvestiya Vysshikh Uchevnykh Zavedeniy, Chernaya Metallurgiya, No 9, 1972, pp 139-142.

Abstract: A study is made of the growth of a eutectic cell, surrounded by a supercooled melt of the eutectic composition. The growth rate of an individual eutectic cell is determined by the diffusion of carbon through the austenitic shell. In order to determine the influence of the number of crystallization centers on cooling curves, the solidification of cast iron containing 3.5% C, 1.8% Si, 0.8% Mn, 0.06% S and 0.1% P was studied. Secondary modification with ferrosilicon increased the number of graphite inclusions per unit surface area by an average of four times, completely eliminated separation of the eutectic cementite and reduced the eutectic crystallization time. The number and radius of cells was found to influence crystallization of cast iron with spheroidal graphite under continuous cooling quite actively. With a small number of centers, the temperature of separation of the eutectic decreases. The eutectic is separated in cast iron with spheroidal graphite at lower temperatures and more slowly

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KOMAROV, O. S., Moscow, Izvestiya Vysshikh Uchevnykh Zavedeniy, Chernaya Metallurgiya, No 9, 1972, pp 139-142.

than in ordinary cast iron of the same composition, since cell growth is controlled not only by heat transfer, but also by the specific kinetics of diffusion of carbon through the austenite.

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USSR UDC 547.446+547.447

FOKIN, A. F., KOMAROV, V. A., DAVYDOVA, S. M., FROSINA, K. V., and ABDULGANIYEVA, Kh. A.

"Preparation of Difluoronitroketones"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 7, No 6, Jun 71, pp 1165-1167

Abstract: The difluoronitroalcohols (I) were prepared by reacting difluoronitromethane with aldehydes in the presence of K_2CO_3: O_2NCF_2 + RCOH $O_2NCF_2C(OH)HR$ (I; R = Me, Et, Pr, Ph). By oxidizing compounds I with chromic acid, the difluoronitroketones $O_2NCF_2C(=O)R$ (II; R = Me, Et, Pr, Ph) were obtained. The difluoronitroketones were distillable colorless liquids. As distinguished from nitroperfluoroacetone, the only fluoronitroketone known hitherto, which does not form either a semicarbazone or 2,4-dinitrophenylhydrazone, II (R = Me) formed a 2,4-dinitrophenylhydrazone (m. p. 122°). II (R = Me), on which the reactions of the CO group of compounds II were studied, formed a cyanohydrin (m. p. 38°, b. 73°/6 mm) on being acted upon by HCN in the presence of NaCN. Bromination of II (R = Me) in concentrated H_2SO_4 yielded the monobromopropanone $O_2NCF_2C(=O)CH_2Br$ and the dibromopropanone $O_2NCF_2C(=O)CHBr_2$. The properties of the new compounds that have been prepared are listed. The yields of II in the preparation from I were 51-85%.

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UDC 681.2.083.8

USSR

RATUSHNYY, B. A., KOMAROV, V. A. [redacted]

"Continuous Set Monitoring of the Deviations of the Parameters of Complex Automatic Control Systems"

V sb. Tezisy dokl. k Nauch.-tekhn. konf. na temu: Probl. sozdaniya sistem upr. sudovymi tekhn. sredstvami., 1971 (Topics of Reports at the Scientific-Technical Conference on Problems of Building Control Systems for Ship Technical Devices, 1971 -- collection of works), Leningrad, 1971, p 44 (from RZh--Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 4, Apr 72, Abstract No 4A564)

Translation: A study was made of the principles of constructing set monitoring devices. A block diagram is presented for a system for continuous monitoring of the deviations of automatic control system parameters. The system permits indexing of the maximum deviation of the parameters from the norm in relative units and decoding of the deviating parameter. It also allows the operator to set the rate of arrival of the data, depending on his general work load. Long before an emergency arises, the operator receives a warning of the deviation of the parameters from the norm, acknowledges these parameters, analyzes the situation in advance, and under sufficiently calm circumstances determines the strategy for intervention in the control processes.

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ENGINEERING

Aeronautical and Space

USSR

UDC 539.4:629.7.02

IVANOVA, YE. A., KOMAROV, V. A.

"Rational Design of the Fixed Portion of a Variable Sweepback Wing"

Tr. Kuybyshev. aviats. in-t (Works of Kuybyshev Aviation Institute), 1971, No. 54, pp 24-35 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V1140)

Translation: Establishing the most favorable plan form and thicknesses of panels of the wing center section in the zone of the fastening of the hinge and also the selection of rational directions of the system of reinforcing elements of the wing with the aid of computer solutions by the finite element method is discussed. It was established that despite the large range of angles of rotation of the major vector of the moment going to the hinge of the wing center section from the cantilever (of the order of 45-60° in various computational cases), the orientation of the reinforcing elements has a range of only 10-15°. Rationally, therefore, the region directly adjacent to the hinge should be constructed as an isotropic panel and the reinforcement should be outside the Shukhov region, gradually balancing the directions of the strengthening elements up to their ordinary position along the caisson. A study of the optimal position of the walls of the caisson was limited only by general considerations concerning the number and placement of the walls. Sample diagrams are given of rational trajectories of the walls along the caisson, beginning at the hinge. 11 ref. S. Ya. Makarov.
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USSR

UDC: 681.325.65

KOMAROV, V. A.

"A Device for Majority Signal Selection"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 13, May 72, Author's Certificate No 335688, Division G, filed 1 Jun 70, published 11 Apr 72, p 206

Translation: This Authors Certificate introduces a device for majority signal selection containing comparison circuits whose first inputs are connected to the output of a majority element, while the second inputs are connected to the input signal sources and the outputs are connected to the corresponding inputs of the display. As a distinguishing feature of the patent, the reliability of the device is improved by adding switching elements whose inputs are connected by pairs to the input signal sources, while the outputs are connected to the inputs of the majority element, and the controlling inputs are connected to the outputs of the corresponding coincidence gates.

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USSR

UDC 621.316.722.1(088.8)

KOMAROV, V.A., TIKHONOV, V.I., KHRISTIANOV, A.S. (N.-i radiotekhn. in-t--Scientific-Research Institute Of Radio Engineering)

"Low-Voltage Regulator"

USSR Author's Certificate No 305465, filed 3 Nov 69, published 13 July 71 (from RZh:Elektronika i yeye primeneniye, No 2, Feb 72, Abstract No 2B469P)

Translation: A regulator is developed for the power supply of microelectronic consumers and tunnel semiconductor diodes. It has a relaxation generator fulfilled with a tunnel semiconductor diode and an inductance. The pulses of the high-frequency generator are amplified by a two-stage amplifier and are fed to the control circuit of a regulating transistor, which is switched over into the cutoff region. The transistor in question is connected across commutating semiconductor diodes to the circuit of the primary windings of the transformer of the network, and consequently during blocking of the transistors the collector current is reduced, the currents in the primary windings of the 3-phase transformer are decreased, and the output voltage of the regulator is reduced. During this the oscillations of the generator are stopped and the collector current of the regulating transistor increases which is accompanied by an increase of the voltage at the rectifier output. Subsequently, the processes in the regulator are repeated. 1 ill. V.Sh.

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UDC: 550.837

USSR

IOFFE, L. M., KOMAROV, V. A., All-Union Scientific Research Institute of Surveying Procedures and Techniques

"A Method of Geoelectric Prospecting"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 19, 1970, Author's Certificate No 272447, filed 9 Aug 68, p 62

Abstract: This author's certificate introduces a method of geoelectric prospecting based on measuring nonlinear effects with simultaneous excitation of a primary field by currents of two frequencies (carrier and modulator frequencies). As a distinguishing feature of the patent, the procedure is designed to improve measurement accuracy and to distinguish ore deposits by mineralogical composition. The primary field is excited by alternating currents of rectangular form which are stabilized with respect to amplitude, and the ratio of the amplitude of the modulation signal envelope to the amplitude of the carrier frequency signal is measured, as is the phase shift between the envelope of the modulation signal and the signal of modulating frequency of the exciting field. These measurements are used to determine the presence and mineral composition of ore deposits.

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1/2 035 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--SELECTIVITY OF CONTROL SEARCH SYSTEMS FOR SURFACE CRACKS IN ELECTROINDUCTUVE CONTROL OF STEEL PRODUCTS; STUDY OF SENSOR REACTION TO

AUTHOR-(02)-VLASOV, V.V., KOMAROV, V.A.

COUNTRY OF INFO--USSR

SOURCE--SVERDLOVSK, DEFEKTOSKOPIYA, NR 1, 1970, PP 107-113

DATE PUBLISHED--------70

SUBJECT AREAS--METHODS AND EQUIPMENT, MATERIALS

TOPIC TAGS--NONDESTRUCTIVE TEST, EDDY CURRENT FLAW DETECTION, METAL ROLLING, METAL CRACKING, STEEL, SURFACE PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/0120 STEP NO--UR/0381/70/000/001/0107/0113

CIRC ACCESSION NO--AP0100658
UNCLASSIFIED

2/2 035 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100658

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FINAL INSTALLMENT IN THE SERIES PUBLISHED BY THESE AUTHORS IN THE SAME NUMBER OF THE JOURNAL NAMED ABOVE. THIS DESCRIBES EXPERIMENTS PERFORMED BY THE AUTHORS WHICH SHOW THAT IT IS POSSIBLE TO DETECT SURFACE CRACKS IN ROLLED STEEL PRODUCTS BY EDDY CURRENTS AND ELIMINATE FALSE DEFECT INDICATIONS GIVEN BY DECARBONIZED SECTIONS AND RIVETS. THE EQUIPMENT THEY USED FOR THE EXPERIMENTATION PERMITTED DETECTION OF DEFECTS IN THE STEEL TO A DEPTH OF AT LEAST 0.4 MM WITH ACCURACY. THE DATA OBTAINED PERMITTED THEM TO CONSTRUCT A DIAGRAM OF THE DETECTIBILITY OF FALSE AND TRUE DEFECTS. THEY OFFER THE QUALIFICATION, HOWEVER, THAT THIS DIAGRAM, REPRODUCED IN THE ARTICLE, IS NOT SUFFICIENTLY PERFECTED AND REQUIRES FURTHER IMPROVEMENT.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--SELECTIVITY OF CONTROL SEARCH SYSTEMS FOR SURFACE CRACKS IN ELECTROINDUCTIVE CONTROL OF STEEL PRODUCTS; STUDY OF SENSOR REACTION TO

AUTHOR-(02)-VLASOV, V.V., KOMAROV, V.A.

K

COUNTRY OF INFO--USSR

SOURCE--SVEROLOVSK, DEFEKTOSKOPIYA, NO. 1, 1970, PP 101-107

DATE PUBLISHED--------70

SUBJECT AREAS--METHODS AND EQUIPMENT, MATERIALS

TOPIC TAGS--NONDESTRUCTIVE TEST, SURFACE PROPERTY, STEEL, SURFACE PROPERTY, METAL CRACKING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/0118 STEP NO--UR/0381/70/000/001/0101/0107

CIRC ACCESSION NO--AP0100657

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--18SEP70

2/2 033

CIRC ACCESSION NO--AP0100657

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS ARTICLE IS THE SEQUEL TO THAT PUBLISHED BY THE SAME AUTHORS IN THE SAME ISSUE OF THE JOURNAL NAMED ABOVE. THE PRESENT ARTICLE DEALS WITH THE REACTION OF THE SENSOR IN THE EXPERIMENTAL EQUIPMENT OF THE PRECEDING ARTICLE TO FALSE SURFACE DEFECTS IN STEEL SPECIMENS. THE AUTHORS EXAMINE THE POSSIBLE PHYSICAL EFFECTS GENERATED BY DECARBONIZED SECTIONS AND RIVETS WHICH MAY ASSIST IN IMPROVING THE SELECTIVITY OF THE SENSOR SO THAT IT WILL NOT RESPOND TO THESE FALSE DEFECTS. AS PART OF THIS EXAMINATION, THEY OBTAINED A NUMBER OF CURVES SHOWING THE VARIATION OF THE EMF INDUCED IN THE CONTROL SYSTEM SENSOR AS A FUNCTION OF THE ANGLE OF ROTATION OF A STEEL SPECIMEN. IT IS FOUND THAT THE DECARBONIZED SURFACE PARTS CAUSE AND INCREASE IN THE INDUCED VOLTAGE WHILE THE PHASE SHIFTS IN THE INDUCED VOLTAGE CAUSED BY THESE PARTS ARE COMPARATIVELY SMALL. THE AUTHORS ALSO CONCLUDE THAT THE CHANGES IN THE EFFECTIVE INDUCED VOLTAGE AND IN THE PHASE SHIFTS OF THAT VOLTAGE CAUSED BY GENUINE DEFECTS AND THE FALSE DEFECTS ARE IDENTICAL IN DIRECTION. CONSEQUENTLY, THIS INFORMATION CANNOT BE USED AS RELIABLE INFORMATION FOR DISTINGUISHING BETWEEN THE TWO.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--18SEP70

1/2 034

TITLE--SELECTIVITY OF CONTROL SEARCH SYSTEMS FOR SURFACE CRACKS IN ELECTROINDUCTIVE CONTROL OF STEEL PRODUCTS; ANALYZING THE PHYSICAL BASES

AUTHOR-(02)-VLASOV, V.V., KOMAROV, V.A.

K

COUNTRY OF INFO--USSR

SOURCE--SVERDLOVSK, DEFEKTOSKOPIYA, NO. 1, 1970, PP 96-101

DATE PUBLISHED--------70

SUBJECT AREAS--METHODS AND EQUIPMENT, MATERIALS

TOPIC TAGS--NONDESTRUCTIVE TEST, SURFACE PROPERTY, METAL CRACKING, STEEL, EDDY CURRENT FLAW DETECTION, RIVET/(U)SHKH15 STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/0116 STEP NO--UR/0381/70/000/001/0096/0101

CIRC ACCESSION NO--AP0100656
UNCLASSIFIED

2/2 034 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100656

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DIFFICULTY INVOLVED IN THE USE OF EDDY CURRENTS FOR DETECTING SURFACE CRACKS IN CARBONIZED OR ALLOYED STEEL ROLLED PRODUCTS IS THAT SUCH DEFECTS PERMIT FALSE SIGNALS CAUSED BY SUCH FACTORS AS SECTIONS OF DECARBONIZED SURFACES AND RIVETS. THE CAUSES OF THIS PHENOMENON AND POSSIBLE CURES ARE DISCUSSED. THE AUTHORS DESCRIBE EXPERIMENTS THEY PERFORMED RELATING TO THIS PHENOMENON, WARNING THAT THEIR EXPERIMENTS WERE NOT SO MUCH DIRECTED TOWARD DEVELOPING A PRACTICAL VARIANT OF THE CONTROL EQUIPMENT AS EXAMINING THE POSSIBILITIES OF THE DETECTION OF SURFACE CRACKS IN STEEL PRODUCTS WITH EQUIPMENT SELECTIVE ENOUGH TO ELIMINATE THE FALSE SIGNALS CAUSED BY DECARBONIZED SURFACES AND RIVETING. FOR THEIR RESEARCHES, THEY CHOSE 100 SPECIMENS, 150-200 MM IN LENGTH, MADE OF TYPE SHKH15 STEEL WHICH HAVE PASSED THROUGH THE PLANT RECRYSTALLIZATION ANNEALING AND STRAIGHTENING PROCESSES. THE DEFECT SEARCH SYSTEM, ILLUSTRATED IN THE DIAGRAM ACCOMPANYING THE TEXT, CONSISTS OF AN INDUCTOR FOR EXCITING EDDY CURRENTS IN THE SPECIMENS, AND A SENSOR. THE INDUCTOR IS MADE UP OF A COIL CARRYING ALTERNATING CURRENT, AND A PAIR OF PI SHAPED CORES. THE SENSOR IS A FERRITE RING WITH A GAP OF 0.2 MM, WITH A COIL OF WIRE WOUND AROUND IT. THE AUTHORS DESCRIBE A POSSIBLE VARIANT OF THE CONTROL SYSTM WHICH WOULD REACT TO THE TANGENTIAL COMPONENT OF THE DEFECT EDDY CURRENT FIELD. THEY CONCLUDE BY EXPRESSING THEIR GRATITUDE TO P. A. KHALILEYEV FOR HIS COMMENTS AND RECOMMENDATIONS.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--USE OF GAS CHROMATOGRAPHY IN THE THERMAL DESORPTION METHOD -U-

AUTHOR-(03)-KOMAROV, V.A., DUBROVINSKIY, R.L., PRIVOLNEV, A.T.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(5), 1309-10

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--GAS CHROMATOGRAPHY, DESORPTION, GAS ADSORPTION, INSTRUMENT CALIBRATION, NITROGEN, THERMAL DECOMPOSITION, PARTICLE SIZE, AMMONIUM COMPOUND, CHROMATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1421 STEP NO--UR/0076/70/044/005/1309/1310

CIRC ACCESSION NO--AP0135095

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0135095

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NEW METHOD OF CALIBRATION OF THE CHROMATOGRAPHIC PEAK AREAS FOR THE CASES OF GAS ADSORPTION CHROMATOG. WHEN N IS THE ADSORBED GAS WAS PROPOSED. THE METHOD IS BASED ON THE QUANT. DETN. OF N WHICH IS RELEASED DURING THE THERMAL DECOMPN. OF (NH SUB4) SUB2 CR SUB2 O SUB7 PLACED IN A U TUBE IN FRONT OF THE THERMAL COND. CELL. THE DEGREE OF THERMAL DECOMPN. OF (NH SUB4) SUB2 CR SUB2 O SUB7 WAS 94 PLUS OR MINUS 2PERCENT. THE CHROMATOGRAPHIC PEAK AREA IS LINEARLY DEPENDENT ON THE ANT. OF (NH SUB4) SUB2 CR SUB2 O SUB7 IN THE U TUBE. THE DETN. OF SP. AREA OF SOLIDS BY USING THE THERMAL DESORPTION METHOD WAS SHOWN TO BE SUCCESSFUL EVEN FOR SP. AREAS OF SOLIDS LESS THAN 1 M PRIME2 -G. FACILITY: LENINGRAD. GORN. INST., LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 621.317.757

KOMAROV, V. A., KOROTKOV, A. Z., KUZ'MIN, Yu. I.

"A Device for Analyzing the Checkout Characteristics of an Automatic Monitoring System"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 334570, Division G, filed 24 Aug 70, published 30 Mar 72, pp 182-183

Translation: This Author's Certificate introduces a device for analyzing the checkout characteristics of an automatic monitoring system. The device contains checkout characteristic and operation number memory units whose inputs are connected to recording units, while the outputs are connected through readout devices to circuits for comparing the checkout characteristics and operation numbers. Also incorporated in the device are a program unit whose output is connected to the set terminals of the checkout characteristic comparison circuits, and AND and NOT-AND elements. As a distinguishing feature of the patent, The reliability of analysis is improved by adding delay units, an operation number counter, and an adaptive majority element. The output of the operation number counter is connected

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USSR

KOMAROV, V. A. et al., USSR Author's Certificate No 334570

to the program unit, to the unit for recording the operation number, and to the operation number comparison circuit. The inputs of the adaptive majority element are connected to the outputs of the checkout characteristic comparison circuits, the set terminal is connected to the program unit, and the output is connected to one input of the first AND element. A second input of the AND element is connected to the output of the operation number comparison circuit, and the output is connected to the first inputs of the NOT-AND element and the second AND element. The second inputs of these elements are connected through the delay unit to an interrogate line, which is connected through a second delay unit to the inputs of the recording units.

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1/2 022 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SPECIFIC PROPERTIES OF BATIO3-BASED SOLID SOLUTIONS -U-

AUTHOR-(02)-KOMAROV, V.D., MOLCHANOVA, R.A.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSR, IZVESTIIA, VENNYI UNIVERSITET, ROSTOV USSR.

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--BARIUM TITANATE, SOLID SOLUTION, BIBLIOGRAPHY, CURIE POINT, ELECTRIC PROPERTY, NIOBIUM, TANTALUM, ANTIMONY, LANTHANUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0951 STEP NO--UR/0363/70/006/000/0054/0058

CIRC ACCESSION NO--AP0118117

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--16OCT7(

CIRC ACCESSION NO--AP0118117

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE TEMPERATURE DEPENDENCE OF THE ELECTRICAL PROPERTIES OF BATIO3 SPECIMENS CONTAINING NB, TA, SB AND LA, BY USING BRIDGE CIRCUIT OR RESONANCE TECHNIQUES AT VARIOUS FREQUENCIES. THE SPECIMENS WERE PREPARED FROM BACO3 AND TIO2 BY A CONVENTIONAL CERAMIC TECHNIQUE OR BY THE DECOMPOSITION OF BARIUM TITANYL OXALATE AT 820DEGC. IT IS FOUND THAT THE TEMPERATURE DEPENDENCES OF PERMITTIVITY ARE ESSENTIALLY THE SAME IN SPECIMENS PREPARED BY EITHER TECHNIQUE. THE CHARACTERISTIC FEATURE OF SPECIMENS, WITH 2 AT PERCENT OF ADMIXTURES IN PARTICULAR, IS A BLURRED PERMITTIVITY MAXIMUM AT 30-40 DEG C AND ANOTHER SLIGHT MAXIMUM CORRESPONDING TO THE CURIE POINT OF PURE BATIO3. FACILITY: ROSTOVSKII-NA-DONU GOSUDARST VENNYI UNIVERSITET, ROSTOV, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SPECIFIC PROPERTIES OF BATIO3-BASED SOLID SOLUTIONS -U-

AUTHOR-(02)-KOMAROV, V.D., MOLCHANOVA, R.A.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSR, IZVESTIIA, VENNYI UNIVERSITET, ROSTOV USSR.

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--BARIUM TITANATE, SOLID SOLUTION, BIBLIOGRAPHY, CURIE POINT, ELECTRIC PROPERTY, NIOBIUM, TANTALUM, ANTIMONY, LANTHANUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0951 STEP NO--UR/0363/70/006/000/0054/0058

CIRC ACCESSION NO--AP0118117

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--16OCT7

2/2 022
CIRC ACCESSION NO--AP0118117
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE TEMPERATURE DEPENDENCE OF THE ELECTRICAL PROPERTIES OF BATIO3 SPECIMENS CONTAINING NB, TA, SB AND LA, BY USING BRIDGE CIRCUIT OR RESONANCE TECHNIQUES AT VARIOUS FREQUENCIES. THE SPECIMENS WERE PREPARED FROM BACO3 AND TIO2 BY A CONVENTIONAL CERAMIC TECHNIQUE OR BY THE DECOMPOSITION OF BARIUM TITANYL OXALATE AT 820DEGC. IT IS FOUND THAT THE TEMPERATURE DEPENDENCES OF PERMITTIVITY ARE ESSENTIALLY THE SAME IN SPECIMENS PREPARED BY EITHER TECHNIQUE. THE CHARACTERISTIC FEATURE OF SPECIMENS, WITH 2 AT PERCENT OF ADMIXTURES IN PARTICULAR, IS A BLURRED PERMITTIVITY MAXIMUM AT 30-40 DEG C AND ANOTHER SLIGHT MAXIMUM CORRESPONDING TO THE CURIE POINT OF PURE BATIO3. FACILITY: ROSTOVSKII-NA-DONU GOSUDARST VENNYI UNIVERSITET, ROSTOV, USSR.

UNCLASSIFIED

USSR

UDC 621.357.13:699.822

SMIRNOV, M. V., BORODINA, N. P., and KOMAROV, V. E.

"Diffusion Coefficients of Uranyl Ions in Melts of Alkali Metal Halides and Their Mixtures"

Tr. In-ta elektrokhimii. Ural'sk nauch. tsentr. AN SSR (Studies of the Institute of Electrochemistry. Ural Science Center, Academy of Sciences USSR) Vyp 18, 1972, pp 64-68 (from Referativnyy Zhurnal -- Khimiya, No 7, 1973, Abstract No 7L427 by A. D. Davydov)

Translation: Diffusion coefficients were measured for uranyl ions in the following melts -- 3 LiCl-2KCl; NaCl-KCl; KCl; RbCl; and CsCl -- in the temperature interval 441-921°C. It was established that the diffusion coefficient of UO_2^{2+} decreased in the order above and increased with temperature.

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USSR

UDC 539.4.019.3

POSTNIKOV, V. S., SHARSHAKOV, I. M., and KOMAROV, V. G., Voronezh

"Elastic Properties of Single Crystals of Cu-Al-Ni Alloys"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 1, Jan-Feb 72, pp 98-102

Abstract: A study was made of the microstructural changes in single crystals of the Cu-Al-Ni alloy in the process of deformation. The alloy was grown by the Bridgeman method in containers of spectrally pure graphite in an argon atmosphere. The high elasticity level of β_1 -single crystals of Cu-Al-Ni alloys is dependent on the $\beta_1 \rightleftarrows \gamma'$ -transformation in the deformation process in a wide range of temperatures and stresses. The deformation in γ' -crystals is realized by means of twinning, which appears to be elastic by a certain orientation of γ'-crystals. The correlation of the investigation results with data of amplitude-dependent internal frictions of β_1 - and γ'-phase is discussed by reference to diagrams. The internal friction level in the temperature region of the γ' -phase is considerably higher than in the β_1 -phase region, which is explained by the motion of twin crystal boundaries. In the temperature range of the β_1 -phase occurrence a dissipation of the oscillation energy is almost not observed, since the

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USSR

POSTNIKOV, V. S., et al., Fizika i Khimiya Obrabotki Materialov, No 1, Jan-Feb 72, pp 98-102

action of outer shearing stresses causes the produced elastic martensite crystals to disappear. Three illustrations, seven bibliographic references.

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USSR

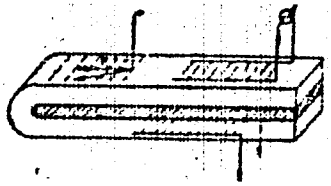
UDC 621.374.5

KARINSKIY, S. S., KOMAROV, V. G., MONDIKOV, V. D., GOLIKOV, M. I., ROMANOV, L. N., KOMAROVA, I. S., KRISTININA, L. I.

"An Integrated Ultrasonic Single-Crystal Delay Line"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 15, May 71, Author's Certificate No 302808, Division H, filed 22 Sep 69, published 28 Apr 71

Translation: This Author's Certificate introduces an integrated ultrasonic single-crystal delay line for surface waves. The device contains a piezoelectric single-crystal acoustic line with a slot on one end which is filled with an absorber. The device also contains lattice-type two-phase receiving and transmitting converters. As a distinguishing feature of the patent, the delay time is increased by locating the converters on the upper and lower surfaces of the acoustic line, and by rounding the other end of the line with a radius of at least ten ultrasonic resonance wavelengths.



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USSR

UDC: 519.2

KOMAROV, V. M.

"On a Problem of Optimum Selection"

Sb. nauch. tr. Chelyabinsk. politekhn. in-ta (Collected Scientific Works of Chelyabinsk Polytechnical Institute), 1971, No 99, pp 175-179 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V39)

Translation: Let there be a set of n elements which are ordered in some way by quality. Selection without replacement is performed on this set. The notation $\mathcal{P}_i$ is used to designate the problem of finding the optimum cutoff time which maximizes the probability of selecting the i-th element in quality. The given problem is solved in this paper for $i = 2$. It is found that in this case the optimum cutoff time is $\left[\frac{n}{e}\right]$, and the maximum probability at large n is close to $\frac{1}{4}$. L. Gal'chuk.

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USSR

UDC: 519.2

KOMAROV, V. M.

"On Solving One Generalization of the Problem of Best Selection."

Sb. nauch. tr. Chelyabinsk. politekhn. in-ta (Collected Scientific Works of Chelyabinsk Polytechnical Institute), 1971, No 99, pp 175-179 (from RZh-Kiternetika, No 1, Jan 72, Abstract No 1V40)

Translation: The author considers problem $\mathcal{P}_1$ formulated in (abs. 1V39). An expression is found for $P_1(m, n-m)$ -- the probability of selecting the third element in quality from n elements if m elements are rejected and $n-m$ are left. L. Gal'chyk.

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1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--LIQUID VAPOR EQUILIBRUIMS IN SYSTEMS FORMED BY ALIPHATIC AMINES, ALCOHOLS, AND WATER. II. LIQUID VAPOR EQUILIBRIUMS IN SYSTEMS FORMED BY

AUTHOR-(02)-KRICHEVTSOV, B.K., KOMAROV, V.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(1), 112-15

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE EQUILIBRIUM, ALIPHATIC AMINE, PROPANOL, AZEOTROPE, VAPOR PRESSURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1254 STEP NO--UR/0080/70/043/001/0112/0115

CIRC ACCESSION NO--AP0116716

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116716

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LIQ. VAPOR EQUIL. WERE STUDIED IN THE SYSTEMS PROPYLAMINE,H SUB2 O (A), DIPROPYLAMINE,H SUB2 O (B), PROPYLAMINE,1,PROPANOL (C), AND DIPROPYLAMINE,1 PROPANOL (D). THE COMPNS. OF THE PHASES IN EQUIL. AND ACTIVITY COEFFS. CALCD. THEREFROM ARE TABULATED. DEVIATIONS FROM IDEALITY ARE SMALL AND POS. FOR A, LARGE AND POS. FOR B, AND LARGE AND NEG. FOR C. CONSTS. FOR THE REDLICH KISTER EQUATION ARE GIVEN FOR A, C, AND D. SYSTEM B FORMS A HETEROAZEOTROPE WITH A NORMAL B.P. AT 85.85DEGREES. EQUATIONS ARE GIVEN FOR THE TEMP. DEPENDENCE OF THE VAPOR PRESSURE OF THIS AZEOTROPE AND OF PURE PROPYLAMINE AND DIPROPYLAMINE.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--EQUILIBRIUMS BETWEEN LIQUID AND VAPOR IN SYSTEMS FORMED BY ALIPHATIC AMINES, ALCOHOLS, AND WATER. III. LIQUID VAPOR EQUILIBRIUM IN

AUTHOR--KOMAROV, V.M., KRICHEVTSOV, B.K.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 295-301

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE EQUILIBRIUM, AMINE, PROPANOL, WATER, ACTIVITY COEFFICIENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0462 STEP NO--UR/0080/70/043/002/0295/0301

CIRC ACCESSION NO--AP0104075

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--11SEP70
CIRC ACCESSION NO--AP0104075
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LIQ. VAPOR EQUIL. IN THE SYSTEMS ISOPROPYLAMINE (I),DIISOPROPYLAMINE (II),H SUB2 O AND ISO,PROH,(II,H SUB2 O WERE STUDIED AT 760 MM HG AND 43 TO 81DEGREES. BOTH SYSTEMS SHOW REMARKABLE REGIONS OF LIMITED SOLY. THE FORMER REMAINS HOMOGENEOUS OVER THE WHOLE CONCN. RANGE FOR I CONTENT GREATER THAN 15 WT. PERCENT. THE B.P. OF THE LATTER INCREASES WITH INCREASING AMT. OF ISO,PROH. A GOOD CONSISTENCY CHECK OF THE DATA WAS FOUND BY USING ACTIVITY OR ACTIVITY COEFF. CALCNS. THE CONSTS. OF THE EMPIRICAL REDLICH AND KISTER EQUATIONS DESCRIBING THE TITLE SYSTEMS BEHAVIOR WITH 5PERCENT ACCURACY ARE GIVEN.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--LIQUID VAPOR EQUILIBRIUMS IN SYSTEMS FORMED BY ALIPHATIC AMINES, ALCOHOLS, AND WATER. IV. CORRELATION BETWEEN THE THERMODYNAMIC

AUTHOR-(02)-KRICHEVTSOV, B.K., KOMAROV, V.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(3), 703-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE EQUILIBRIUM, ALIPHATIC AMINE, BUTANOL, THERMODYNAMIC CHARACTERISTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1177 STEP NO--UR/0080/70/043/003/0703/0706

CIRC ACCESSION NO--AP0128599

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128599

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LIQ. VAPOR EQUIL. WERE DETD. FOR THE SYSTEMS ET(BU)NH,BUOH AND ET SUB2 NH,BUOH AND A METHOD OF CORRELATING THE DATA FOR AMINE ALC. SYSTEMS BASED ON THE PROPERTIES OF THE PURE COMPONENTS WAS PROPOSED. TABULATED ARE THE B.P., N PRIME20 SUBD, AND D PRIME20 FOR THE PURE COMPONENTS, AND THE B.P., CONCNS. OF COMPONENTS IN THE LIQ. AND VAPOR PHASE, AND ACTIVITY COEFFS. FOR THE ABOVE MENTIONED BINARY SYSTEMS. ALSO, THE EXCESS FREE ENERGY VALUES WERE CORRELATED WITH THE COMPN. OF THE AMINE ALC. MIXTS. (8 SYSTEMS OF ALIPHATIC AMINES AND ALCS. TESTED) AND WITH THE TAFT STERIC SUBSTITUENT CONSTS. E SUBS. FOR ALIPHATIC AMINE ALC. SYSTEMS, THE EXTENT OF DEVIATIONS FROM IDEAL BEHAVIOR IS A FUNCION OF STERIC EFFECTS. THESE DEVIATIONS CAN BE CALCD. BY USING E SUBS. FACILITY: GOS. INST. PRIKL. KHIM., LENINGRAD, USSR.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--LIQUID VAPOR EQUILIBRIUM IN SYSTEMS FORMED BY ALIPHATIC AMINES, ALCOHOLS, AND WATER. V. CORRELATION OF DATA ON THE LIQUID VAPOR

AUTHOR-(02)-KOMAROV, V.M., KRICHEVTSOV, B.K.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(5), 1160-3

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE EQUILIBRIUM, ALIPHATIC AMINE, ENTHALPY, AZEOTROPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1978 STEP NO--UR/0080/70/043/005/1160/1163

CIRC ACCESSION NO--AP0132239

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132239

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS STUDY OF LIQ. VAPOR EQUIL. IN ALIPHATIC AMINE AND WATER SYSTEMS MADE IT POSSIBLE TO DET. THE DEPENDENCE OF THE EXCESS FREE ENTHALPY OF MIXING FUNCTION ON THE TAFT CONSTS., AND ALSO TO DET. THE DEPENDENCE OF THE B.P. AND THE COMPN. OF THE AMINE AND WATER AZEOTROPE ON THE B.P. OF THE PURE AMINE. FOR AMINES WITH B.PS. IS GREATER THAN 200DEGREES, B.P. OF THE AZEOTROPE VARIES IN THE LIMITS OF 99.7-100DEGREES. THE AMINE CONTENT IN THE AZEOTROPE IN WT. PERCENT DEPENDS ON THE B.P. OF THE PURE COMPONENT.

UNCLASSIFIED

USSR

UDC 541.123.012.5:536.753+542.61:661.726.661.63

KOMAROV, Ye. V., KOMAROV, V. N., and PUSHLENKOV, M. F.

"New Method of Describing the Distribution of Metal Ions in Extracting Systems Containing Monoaryl- and Monoalkylphosphoric Acids"

Leningrad, Radiokhimiya 12, No 3, 1970, pp 455-460

Abstract: The quantitative aspects of the extraction of metals by dibasic aryl- and alkylphosphozic acids were studied and theoretically interpreted. It was found that the conventional treatment of experimental data does not suffice to elucidate the extraction mechanism for metals which form a strong association with the extractants. The equations derived were experimentally confirmed with the example of the extraction of europium by solutions of mono-n-octylphosphozic acid in various solvents.

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1/2 017 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--MODEL FOR DESCRIBING THE EXTRACTION OF MONOBASIC ACIDS BY ALKYLAMMONIUM SALTS -U-

AUTHOR-(02)-KOMAROV, YE.V., KOMAROV, V.N.

COUNTRY OF INFO--USSR

SOURCE--RADIOKHIMIYA 1970, 12(2), 302-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMODYNAMICS, AMMONIUM NITRATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0112 STEP NO--UR/0186/70/012/002/0302/0306

CIRC ACCESSION NO--AP0132405

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132405

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MODEL DESCRIBING THE EXTN. OF MONOBASIC ACIDS (ESP. HNO SUB3) BY ALKYLAMMONIUM SALTS IS SUGGESTED. SOLVATE B SUBTAU .IHA IS FORMED IN THE ORG. PHASE WHEN A SOLN. OF MONOBASIC ACID HA IS EXTD. BY A ALKYLAMMONIUM SALT B; R AND I ARE THE NOS. OF ALKYLAMMONIUM AND ACID MOLS., RESP. THERMODYNAMIC EQUIL. CONST. OF THAT REACTION, K SUBTAU I, CAN BE EXPRESSED BY K SUBTAU I EQUALS BETA PRIMEI W SUBTAU I, WHERE BETA IS THE EQUIL. CONST. OF SOLVATE FORMATION IN THE ORG. PHASE, AND W SUBTAU I IS A STATISTICAL FACTOR WHICH DEPENDS ON NOS. OF REACTION SITES OF B SUBTAU ASSOC. CONCN. OF B SUBTAU .IHA IN THE ORG. PHASE MAY BE THEN EXPRESSED BY (B SUBTAU .IHA) EQUALS (BETA A) PRIMEI W SUBTAU I (B SUBTAU) GAMMA SUBTAU -GAMMA SUBTAU I, WHERE A IS THE ACTIVITY OF HA IN WATER PHASE, GAMMA SUBTAU AND GAMMA SUBTAU I ARE ACTIVITY COEFFS. OF B SUBTAU AND B SUBTAU .IHA IN THE ORG. PHASE, RESP.; LN GAMMA SUBTAU -GAMMA SUBTAU I EQUALS I SUBPHI (C SUBH, C SUBB), WHERE PHI(C SUBH, C SUBB) IS A FUNCTION OF THE TOTAL CONCN. OF HA AND B IN THE ORG. PHASE. EQUIL. CONST. BETA CAN BE EXPRESSED BY BETA EQUALS (C SUBH OVER C SUBB -C SUBH)A)E PRIME NEGATIVEPHI. FROM EXPTL. RESULTS TAKEN FROM THE LITERATURE, THE PARAMETER PHI LOG E FOR HNO SUB3 EXTN. CHANGES FROM 0.12 AT C SUBH -C SUBB EQUALS 0.1 TO 0.15 AT C SUBH -C SUBB EQUALS 1 AT A CONCN. OF TRI,N,OCTYLAMMONIUM NITRATE OF 1 MOLE-L., AND DECREASES LINEARLY WITH DECREASING C SUBB CONCN.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--POLYMERIZATION OF MONO N OCTYL PHOSPHATE IN NONPOLAR SOLVENTS -U-

AUTHOR-(02)-KOMAROV, YE.V., KOMAROV, V.N.

COUNTRY OF INFO--USSR

SOURCE--RADIOKHIMIYA 1970, 12(2), 297-302

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYMERIZATION, ORGANIC PHOSPHATE, SOLVENT ACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1491 STEP NO--UR/0186/70/012/002/0297/0302

CIRC ACCESSION NO--AP0135152

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0135152

ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. POLYMN. OF MEICH SUB2)SUB7 O PO SUB3 H SUB2 (I) IN CCL SUB4 AND C SUB6 H SUB6 WAS STUDIED BY CRYOSCOPIC AND ISOPIESTIC METHODS. SOLNS. OF I IN NONPOLAR SOLVENTS WERE CHARACTERIZED BY A STRONG POSITIVE DEVIATION FROM IDEALITY. THIS MAY BE EXPLAINED BY HIGH ASSOCN. OF I IN NONPOLAR SOLVENTS, AND BY THE INFLUENCE OF THE WATER CONTENT OF SOLVENTS ON THE DEGREE OF POLYMN. OF I. THE D.P. OF I IN C SUB6 H SUB6 AT LOW H SUB2 O CONCN. WAS NEARLY THE SAME AS IN ANHYD. CCL SUB4. AT HIGH CONCNS. OF H SUB2 O THE D.P. OF I IN C SUB6 H SUB6 INCREASED, AND WAS 10-15 TIMES AS HIGH AS IN ANHYD. C SUB6 H SUB6. THE D.P. ALSO DEPENDED ON CONCN. OF I. A POSSIBL MECHANISM FOR THE EXTN. OF CATIONS BY MONOALKYL PHOSPHATES IS ALSO SUGGESTED.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--MASS SPECTROMETRIC ANALYSIS OF HYDROGEN ISOTOPES WITH A HIGH TEMPERATURE ION SOURCE -U-

AUTHOR-(03)-TUNITSKIY, N.N., KOMAROV, V.N., TIKHOMIROV, M.V.

COUNTRY OF INFO--USSR

SOURCE--PRIB. TEKH. EKSP. 1970, (2), 175-8

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--MASS SPECTROSCOPY, HYDROGEN ISOTOPE, ION SOURCE, HEATING, MASS SPECTROMETER/(U)MI13015 MASS SPECTROMETER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1076 STEP NO--UR/0120/70/000/002/0175/0178

CIRC ACCESSION NO--AP0136496

UNCLASSIFIED

2/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0136496
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ION SOURCE IS DESCRIBED WHICH IS BASED ON ION SOURCES OF MASS SPECTROMETERS OF THE MI-1301-5 TYPE. THE SOURCE IS CONVENIENT FOR WORK AT LESS THAN OR EQUAL TO 1000DEGREES. SIMULTANEOUS HEATING FOR 3 HR OF THE CHAMBER AT 800DEGREES AND THE ANALYZER AT 100DEGREES WITH BLOWING THROUGH THE DEVICE OF D (H) REMOVES THE INFLUENCE OF RESIDUAL EFFECTS OF THE ANAL. RESULTS OF PRACTICALLY PURE D. FACILITY: NAUCH.-ISSLED. FIZ.-KHIM. INST., MOSCOW, USSR.

UNCLASSIFIED

UDC: None

USSR

SONECHKINA, Ye. L. and KOMAROV, V. P., Compilers

"Some Problems of Information Retrieval in Office Management"

Moscow, "Izdatel'stvo Standartov," 1972, 40 pp

Abstract: Three types of problems that must be considered in information retrieval as practiced in office management are: first, determination of the characteristics of management documents as sources of information by comparing them with other material, such as that found in technical libraries; second, analysis of traditional methods of retrieval of information from management documents; and third, the investigation of possibilities of optimizing empirically developed methods of information retrieval and the application of those optimized methods to office management routine. These are the problems with which this pamphlet is concerned, and these form the three basic parts in which it is divided. A bibliography of thirteen titles, all of them of Soviet origin, is appended; there are no illustrations.

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UDC 533.6.011.72

USSR

BAZHENOVA, T. V., GVOZDEVA, L. G., KOMAROV, V. S., and SUKHOV, B. G.

"Investigation of the Diffraction of Strong Shock Waves at Convex Angles"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No 4, 1973, pp 122-134

Abstract: Results are presented of an investigation of the diffraction of strong shock waves at two-dimensional convex angles (M_0 = 2—10) in gases with change of the adiabatic exponent from 1.66 to 1.05.

New features of the diffraction pattern are disclosed, that are linked by interaction of the retardation wave with the free jet boundary layer. It is established that the shape of the diffracting shock wave depends upon the Mach number M_0 of the shock wave and the diffraction angle u_0. The Mach number of the wall portion of the shock wave does not depend upon the adiabatic exponent of the gas ν if the adiabatic exponent varies within the range of 1.4—1.15. With an increase of the diffraction angle and the Mach number of the incident shock wave in the wall portion of the diffracting shock wave, there consecutively originate a point of inflection, a Mach refection, and a nearly regular reflection.

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USSR

BAZHENOVA, T. V., et al., Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No 4, 1973, pp 122-134

Experimental values of the stall angles are obtained. It is shown that the stall takes place at a pressure greater than p_0, but less than 2 p_0. The pressure on the wall surface during diffraction of the shock wave changes from the value at the front of the diffracted part of the shock wave to the value at the end of the rarefication wave. An approximation formula is presented, which gives the relationship of the value of the pressure on the front of the diffracted shock wave to the Mach number of the incident wave and to the wedge angle. Values of the pressure at the end of the expansion wave are obtained on the basis of experimentally measured values of the stall angle. 15 references.

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UDC 541.182.02

USSR

KOMAROV, V. S., KUZNETSOVA, T. F., and DUBNITSKAYA, I. B., Institute of General and Inorganic Chemistry Academy of Sciences Belorussian SSR

"The Influence of Organic Cation-active Agents on the Structure of Absorbants Produced"

Minsk, Izvestiya Akademii Nauk BSSR Seriya Khimicheskikh Nauk, No 2, 1972, pp 63-67

Abstract: A study was made of the effect of twelve to eighteen carbon long amine salts, which are cation-active organic substances, on the structure of zerogels of aluminum hydroxide formed in their presence. These experiments were part of a larger study of the formation of gels in the presence of various surface-active substances. The maximum sorption volume, specific surface area, and mean effective pore radius were determined in the presence of four different amine salts, each at 0.01 and 0.05 weight%. The absorption isotherms and curves for the distribution of pore volume versus radius were plotted for each salt and concentration. An uninterupted rise in sorption capacity and effective pore volume were observed with increasing molecular weight and concentration of the amine, while the specific surface correspondingly decreased. The surface ionization is discussed and it is proposed that the absorption of the

USSR

KOMAROV, V. S., et al., Izvestiya Akademii Nauk BSSR Serkya Khimicheskikh Nauk, No 2, 1972, pp 63-67

organic cations of the surface of the hydrophilic particles renders them hydrophobic and leads to a screening effect, and a lowering of the electrokinetic potential. This hydrophibic film results in a lowered stability of the aggregation, and to a lessened capacity for immediate contact between particles. A thinner hydrophobic layer is said to lead to the formation of small pore absorbants, and a thicker layer to large pore. A further increase in the concentration of the surface active absorbants again renders the particle hydrophilic due to the double layer formation illustrated. These particles form a friable aggregate. The fact that the adsorption of long chain organic cations of the surface of gel particles facilitates the formation of dispersed structures, with relatively high free energy, is indicated.

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USSR UDC 541.182.02

KOMAROV, V. S., Institute of General and Inorganic Chemistry, Academy of Sciences Belorussian SSR

"Clay Slimes of Soligorsk Potassium Combines As the Raw Material for the Production of Adsorbents"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Khimicheskikh Nauk, No 6, 1970, pp 108-110

Abstract: The article considers the possibility of using clay slimes, the industrial waste from Soligorsk potassium combines, as the raw material for the production of adsorbents. It is shown that clay activated according to the combined method of the Institute of General and Inorganic Chemistry, Academy of Sciences Belorussian SSR, in which there is no washing off of salts or flotation reagents, has a 2.7- to 3.5-fold higher sorption capacity than clay activated according to the acid method of the Azerbaydzhan Petroleum Scientific Research Institute imeni V. V. Kuybyshev (likewise minus the washing out of salts).

USSR

KOMAROV, V. S., Izvestiya Akademii Nauk BSSR, Seriya Khimicheskikh Nauk, No 6, 1970, pp 108-110

The combined method makes it possible to vary the structure of the resultant adsorbents within rather wide limits, thus permitting a significant expansion of the raw material base for the production of active, mechanically strong clay-hydroxide adsorbents.

USSR

UDC: 661.183.45

TUTAYEVA, N. L., KOMAROV, V. S., Institute of General and Inorganic Chemistry, Academy of Sciences, Belorussian SSR

"Dynamic Adsorption of Water Vapors by Stationary Phase of Clay Adsorbents"

Minsk, Vestsi Akademii Navuk BSSR, Seriya Khimichnykh Navuk, No 1, 1970, pp 24-28

Abstract: Since the success of many industrial processes depends upon the proper choice of adsorbent the properties of which are known beforehand, the authors investigated new combinations and methods of activation of clays which admit of a full determination and regulation of their structure. The authors prepared a sample of clay from Obol and four samples from Azkamar (Uzbek SSR) on caolin base and compared their dynamic sorptive activity with mercial silica gels of all degrees of porosity using water vapor in gasor air as the moving phase. The natural clays exceeded the coarse- and medium-grained silica gel in their dynamic absorption of water vapor. The results showed that the natural clays, when properly treated, can be used as effective driers of gases.

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1/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--REGENERATION OF ZEOLITE CATALYSTS -U-

AUTHOR-(02)-KOMAROV, V.S., PLYUSHCHEVSKIY, N.I.

COUNTRY OF INFO--USSR

SOURCE--USSR 266,736
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBTAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--01APR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ZECLITE, CATALYST REGENERATION, CHEMICAL PATENT, COKE,
HYDROGEN PEROXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1472 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128871
UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AA0128871
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ZEOLITE CATALYSTS CLOGGED WITH COKE DEPOSITS WERE REGENERATED BY TREATMENT WITH 30PERCENT H SUB2 O SUB2 AT 450-500DEGREES TO PREVENT THE DESTRUCTION OF THE CRYST. STRUCTURE OF THE ZEOLITE AND AVOID HOT SPOTS. FACILITY: INSTITUTE OF GENERAL AND INORGANIC CHEMISTRY, ACADEMY OF SCIENCES, BELORUSSIAN SSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--RESTORATION OF VERTICAL TEMPERATURE AND HUMIDITY PROFILES BY A METHOD OF MULTIVARIATE EXTRAPOLATION -U-

AUTHOR--KOMAROV, V.S.

COUNTRY OF INFO--USSR

SOURCE--METEOROLOGIYA I GIDROLOGIYA, 1970, NR 5, PP 36-41

DATE PUBLISHED--------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES

TOPIC TAGS--STRATOSPHERE, AEROLOGIC STATION, ATMOSPHERIC TEMPERATURE, ATMOSPHERIC HUMIDITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0079 STEP NO--UR/0050/70/000/005/0036/0041

CIRC ACCESSION NO--AP0132372

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132372

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASED ON AN EXAMPLE OF FIVE UPPER AIR STATIONS OF THE USSR (MURMANSK, VOEIKOVO, KZYL-ORDA, ALMA-ATA AND NAGAEVO), THE ESTIMATION OF ERRORS OF RESTORATION OF VERTICAL TEMPERATURE AND RELATIVE HUMIDITY PROFILES IS GIVEN BY A MULTIVARIATE EXTRAPOLATION METHOD ON THE BASIS OF INDEPENDENT MATERIAL. IT IS CONCLUDED THAT THE EXTROPOLATION METHOD GIVES RELIABLE RESULTS WHILE SOLVING PROBLEMS OF RESTORATION OF TEMPERATURE AND HUMIDITY DATA TO THE NEAREST STANDARD LEVEL NOT ONLY ON DEPENDENT, BUT ALSO ON INDEPENDENT MATERIAL. IT IS MORE EXPEDIENT TO USE THE MENTIONED METHOD FOR RESTORATION OF THESE METEOROLOGICAL ELEMENTS IN THE STRATOSPHERE.

FACILITY: N-I INSTITUT AEROKLIMATOLOGII.

UNCLASSIFIED

USSR

UDC: 539.14

KOMAROV, V. V., Scientific-Research Institute of Nuclear Physics, Moscow State University imeni M. V. Lomonosov

"Diagram Summation Method for the Analysis of Multi-Particle Nuclear Reactions"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 37, No 9, 1973, pp 1991-1999

Abstract: The author studies the amplitudes of the interaction reactions of deuterons with a nucleus-potenital. The application of the diagram summation method is demonstrated with respect to the study of reactions which take place through a compound nucleus with its subsequent breakdown into several particles. The study covers four areas: 1. Deuteron decay in the field of the nucleus. This involves the d+A→n+p+A reaction as a problem associated with the scattering of three forces, where one of these (the target-nucleus) can be infinitely heavy in comparison with the other two. 2. Model for the diffraction spallation of deuterons in the field of the nucleus. 3. Multi-particle nuclear reactions which take place in conjunction with the formation of a compound nucleus. The proposed method was used for calculating the energy distributions of alpha-particles from ^{12}C decay reactions. These calculations made it possible to explain quantitatively the narrowing effect of two-particle resonances in three-particle nuclear processes. They

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USSR

KOMAROV, V. V., Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 37, No 9, pp 1991-1999

also made possible the development of a method for determining the spectroscopic characteristics of nuclei with respect to the width of the resonance peaks in the decay products spectra.

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1/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--NARROWING OF THE RESONANCE OF TWO PARTICLE INTERACTIONS IN REACTIONS INVOLVING THE FORMATION OF THREE PARTICLES -U-

AUTHOR--KUMAROV, V.V.

K

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 78-83

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PARTICLE INTERACTION, PROTON, NEUTRON, DEUTERON, RESONANCE SCATTERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0373 STEP NO--UR/0048/70/034/001/0078/0083

CIRC ACCESSION NO--AP0055158

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0055158

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATIONS BASED ON LITERATURE DATA REVEALED THAT THE THEORY OF REACTIONS IN WHICH PARTICLES ARE FORMING CAN BE ESTABLISHED ON THE BASIS OF RESULTS OF THE GENERAL THEORY OF MULTIPARTICLE SCATTERING. IN REACTIONS WHERE 2 PARTICLES INTERACT (P PLUS D, N PLUSD, D PLUSD, ETC.) THE NARROWING OF THE RESONANCE AND SHIFTING OF RESONANCES IS THE CHARACTERISTIC FEATURE OF REACTIONS PROCEEDING THROUGH THE CONSTITUENT NUCLEUS FOLLOWED BY ITS SIMULTANEOUS DECAY; THE LACK OF DEPENDENCE OF THE RESONANCE WIDTH ON THE EMISSION ANGLE GIVES EVIDENCE OF THE COURSE OF THE REACTION THROUGH THE CONSTITUENT NUCLEUS; AND THE FORM OF THE RESONANCE DEPENDS ON THE CHARACTERISTIC OF THE STATE OF CONSTITUENT NUCLEUS THROUGH WHICH THE REACTION IS PROCEEDING. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--TWO PARTICLE RESONANCE NARROWING IN THREE PARTICLE NUCLEAR REACTIONS -U-

AUTHOR-(02)-KOMAROV, V.V., SALMAN, H.A.

K

COUNTRY OF INFO--USSR

SOURCE--PHYS. LETT. B 1970, 31(2), 52-5

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--RESONANCE SCATTERING, ALPHA PARTICLE, BORON ISOTOPE, PROTON BOMBARDMENT, DEUTERON BOMBARDMENT, BERYLLIUM ISOTOPE, CARBON ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1982/0680 SYEP NO--NE/0000/70/031/002/0052/0055

CIRC ACCESSION NO--AP0052139

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0052139

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE 2 ALPHA PARTICLE RESONANCE WIDTH NARROWING IN THE FINAL STATE OF THE REACTION LEADING TO 3 ALPHA PARTICLES IN THE EXIT CHANNEL IS STUDIED BY GENERAL MULTIPARTICLE SCATTERING THEORY (K., ET AL., 1967). CALCNS. WERE MADE OF THE NARROWING EFFECT IN PRIME11 B(P,3ALPHA) AND PRIME10 B(D,3ALPHA) WHICH GO THROUGH THE PRIME12 C INTERMEDIATE STATES FOR P AND D ENERGIES OF 163-3000 KEV. THE REACTIONS ARE ASSUMED TO PRODUCE SIMULTANEOUSLY 3 ALPHA PARTICLES, WHICH INTERACTED BY PAIRS WHILE IN THE INTERACTION VOL. THE CALCD. AND EXPTL. PRIME8 BE(2 PLUS) RESONANCES IN PRIME11 B(P,3ALPHA) AGREE AT E SUBP EQUALS 1.4 MEV, PRIME12 C(1 MINUS, 17, 23 MEV) THETA SUBALPHA1 EQUALS 95DEGREES LAB.; AND E SUBP EQUALS 2.0 MEV, PRIME12 C(0 PLUS, 17, 77 MEV), THETA SUBALPHA1 EQUALS 84DEGREES LAB. THE CALCD. AND EXPTL. PRIME8 BE(4 PLUS) RESONANCE IN PRIME10 B(D,3ALPHA) AGREE AT E SUBD EQUALS 1.9 MEV, PRIME12 C(1 MINUS, 26.9 MEV), THETA SUBALPHA1 EQUALS MINUS THETA SUBALPHA2 EQUALS 124DEGREES LAB. SOME RULES ARE PRESENTED FOR IDENTIFICATION OF THE MANY PARTICLE REACTION MECHANISM BY THE FINAL STATE INTERACTION RESONANCE WIDTH. USE OF SUCH REACTIONS TO DEDUCE THE SPECTROSCOPIC PROPERTIES OF HIGHLY EXCITED INTERMEDIATE STATES IS DISCUSSED. FACILITY: INST. NUCL. PHYS., MOSCOW STATE UNIV., MOSCOW, USSR.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--ENERGY DISTRIBUTION OF ALPHA PARTICLES FROM THE P PLUS PRIMELI B YIELDS 3 ALPHA REACTIOn -U-

AUTHOR-(05)-KOMAROV, V.V., POPOVA, A.M., ROMANOVSKIY, YE.A., KALACHEVA, Z.F., SALMAN, KH.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 84-8

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--ENERGY SPECTRUM, ALPHA SPECTRUM, PROTON BOMBARDMENT, BORON ISOTOPE, CARBON ISOTOPE, EXCITED NUCLEUS, CALCULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0207 STEP NO--UR/0048/70/034/001/0084/0088

CIRC ACCESSION NO--AP0105283

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105283

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CALCN. IS DEMONSTRATED OF THE WIDTH OF A 2 PARTICLE ALPHA ALPHA RESONANCE (L PRIMEPI EQUALS 2POSITIVE), APPEARING IN THE ENERGY DISTRIBUTIONS OF THE ALPHA PARTICLES IN THE REACTION P PLUS PRIME11 B YIELDS 3 ALPHA WHICH OCCURS THROUGH THE STATES 1 MINUS AND 0 POSITIVE OF THE PRIME12 C NUCLEUS (E EQUALS 17.23 AND 17.77 MEV). THE CALCD. VALUES AGREE VERY WELL WITH THE EXPTL. DATA OBTAINED FROM THE EXPTS. WITH THE ENERGY OF THE INCIDENT P 1.7 AND 2.0 MEV, RESP.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--TWO PARTICLE RESONANCE NARROWING IN THREE PARTICLE NUCLEAR REACTIONS -U-

AUTHOR-(02)-KOMAROV, V.V., SALMAN, H.A.

COUNTRY OF INFO--USSR

SOURCE--PHYS. LETT: 31B: 52-5, 19 JAN 70

DATE PUBLISHED--19JAN70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--RESONANCE SCATTERING, MULTIPLE SCATTERING, ALPHA PARTICLE, NUCLEAR REACTION, EXCITED NUCLEUS, PROTON BOMBARDMENT, BORON ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0985 STEP NO--NE/0000/70/031/000/0052/0055

CIRC ACCESSION NO--AP0124644

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0124644

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NARROWING OF THE TWO ALPHA PARTICLE RESONANCE WIDTH IN THE FINAL STATE OF THE REACTION LEADING TO THREE ALPHA PARTICLES IN THE EIXT CHANNEL IS CONSIDERED ON THE BASE OF GENERAL MULTIPARTICLE SCATTERING THEORY. CALCULATIONS WERE MADE FOR INTERPRETATION OF THE NARROWING EFFECT IN THE REACTION PRIME11 B(P, 3 ALPHA) AND PRIME10 B(D, 3 ALPHA). SOME RULES ARE PRESENTED FOR IDENTIFICATION OF THE MANY PARTICLE REACTION MECHANISM BY THE FINAL STATE INTERACTION RESONANCE WIDTH. USE OF SUCH REACTIONS TO DEDUCE THE SPECTROSCOPIC PROPERTIES OF HIGHLY EXCITED INTERMEDIATE STATES IS DISCUSSED. FACILITY: MOSCOW STATE UNIV.

UNCLASSIFIED

UDC 541.13

USSR

KOMAROV, YE. V., and SHPUNT, L. B.

"Thermodynamic Equilibrium Constants and Reaction Heat Effects of the Extraction of Uranyl Nitrate with Trialkyl Phosphates in Inert Solvents. VII. Tri-n-Nonylphosphate (TNP)"

Leningrad, Radiokhimiya, Vol 13, No 6, 1971, pp 893-895

Abstract: The structure of $UO_2(NO_3)_2 \cdot 2TNP$ has been established from infrared spectroscopical data, and found to be identical with the structure of triethylphosphate complex: the molecules of TNP are in trans-position, coordination capacity of NO_3^- groups being 2. Thermodynamic equilibrium constants of the extraction of uranyl nitrate with TNP in CCl_4 and n-decane were determined from the temperature range of 10-50°C. The values of ΔH, ΔG, and ΔS were obtained from the equilibrium constant of the extraction expressed as a function of temperature.

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UDC 541.13

USSR

SHPUNT, L. B., KOMAROV, YE. V., and PUSHLENKOV, M. F.

"Thermodynamic Equilibrium Constants and Reaction Heat Effects of the Extraction of Uranyl Nitrate with Trialkylphosphates in Inert Solvents. IX. Tri-n-Decylphosphate (TDP)"

Leningrad, Radiokhimiya, Vol 13, No 6, 1971, pp 895-897

Abstract: The structure of $UO_2(NO_3)_2 \cdot 2TDP$ has been established from infrared spectroscopical data, and found to be identical with the triethylphosphate complex: the molecules of TDP are in trans-position coordination capacity of NO_3^- groups being 2. Thermodynamic equilibrium constants of the extraction of uranyl nitrate with TDP in CCl_4 and n-decane were determined from the temperature range of 10-50°C. The values of ΔH, ΔG, and ΔS were obtained from equilibrium constant of the extraction expressed as a function of temperature.

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USSR

UDC 541/13

SHPUNT, L. B., and KOMAROV, YE. V.

"Thermodynamic Equilibrium Constants and Heat Effects of the Extractions of Uranyl Nitrate With Trialkylphosphates in Inert Solvents. VI. Tri-n-Heptylphosphate (THpP)"

Leningrad, Radiokhimiya, Vol 13, No 5, 1971, pp 763-765

Abstract: The structure of the extracted complex of tri-n-heptylphosphate (THpP) with uranyl nitrate was determined: it is the same for $UO_2(NO_3)_2.2THpP$ as it is for $UO_2(NO_3)_2.2TEP$; the No_3 groups are in trans-postion with coordination capacity of 2. Thermodynamic equilibrium constants for the extraction of uranyl nitrate with THpP solutions in carbon tetrachloride and n-decane were determined for the temperature range 10-50°C, as well as other thermodynamic functions: ΔH, ΔG, and ΔS for t = 25°C.

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USSR

UDC 541.13

SHPUNT, L. B., KOMAROV, YE. V., and PUSHLENKOV, M. P.

"Thermodynamic Equilibrium Constants and Heat Effects of the Extractions of Uranyl Nitrate with Trialkylphosphates in Inert Solvents. VII. Tri-n-Octylphosphate (TOP)"

Leningrad, Radiokhimiya, Vol 13, No 5, 1971, pp 766-768

Abstract: The structure of the extracted complex of tri-n-octylphosphate (TOP) with uranyl nitrate was determined: it is the same for $UO_2(NO_3)_2 \cdot 2TOP$ as it is for $UO_2(NO_3)_2 \cdot 2TEP$; the NO_3 groups are in trans-position with coordination capacity of 2. Thermodynamic equilibrium constants for the extraction of uranyl nitrate with TOP solutions in carbon tetrachloride and in n-decane were determined for the temperature range 10-50°C, as well as other thermodynamic functions: ΔH, ΔG, and ΔS for $t = 25°C$.

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USSR

UDC 541.13

SHPUNT, L. B., and KOMAROV, Ye. V.

"Thermodynamic Equilibrium Constants and Thermal Effects of the Extraction Reactions of Uranyl Nitrate, With Use of Trialkylphosphates in Inert Solvents: III. Tri-N-Propylphosphate (TPPh)"

Leningrad, Radiokhimiya, Vol XIII, No 3, 1971, pp 463-466

Abstract: Synthesized tripropylphosphate (TPPh) in the forms $UO_2(NO_3)_4 \cdot 2TPPh$ and $UO_2(NO_3)_2 \cdot 2TPPh$ was studied spectrometrically. The structure of the two solvates was found to be identical. X-ray analysis showed that for the compound $UO_2(NO_3)_2 \cdot 2TPPh$, the phosphate molecules are in the trans-position, while the NO_3^- group has a coordination capacity of 2. Also determined were the distributions of TPPh between aqueous solutions and carbon tetrachloride and n-dekane at 10-50°C, and the concentrations of TPPh in a 0.08-0.15 M organic phase. Thermodynamic equilibrium constants for the same solution and temperatures were determined. On the basis of the relationship of the constant with temperature, the functions of the extraction reaction ΔH (cal/mole), ΔS (cal/deg·mole) and ΔG (cal/mole), were determined for t = 25°C.

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UDC 541.121:536.7:542.61

USSR

KOMAROV, Ye. V., SHPUNT, L. B., and PUSHLENKOV, M. F.

"Thermodynamic Equilibrium Constants and Thermal Effects of the Extraction Reactions of Uranyl Nitrite with Use of Trialkylphosphates in Inert Solutions: I. Tri-N-Butylphosphate (TBPh)"

Leningrad, Radiokhimiya, Vol XIII, No 3, 1971, pp 380-385

Abstract: Various parameters in addition to bond energy exert a substantial effect on the equilibrium of chemical reactions; these include mass, size, symmetry, and others. Owing to the complexity of this problem, a simplified approach was applied here in the study of such parameters. The structure of the solvate $UO_2(NO_3)_2 \cdot 2TBPh$ was determined, along with the thermodynamic equilibrium constants of the extraction reactions for tri-n-butylphosphate in carbon tetrachloride and in n-dekane, at temperatures of 10-15°C. The thermodynamic extraction functions ΔH, ΔG and ΔS, at t = 25°C were also determined.

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USSR UDC 541.123.012.5:536.753+542.61:661.726.661.63

KOMAROV, Ye. V., KOMAROV, V. N., and PUSHLENKOV, M. F.

"New Method of Describing the Distribution of Metal Ions in Extracting Systems Containing Monoaryl- and Monoalkylphosphoric Acids"

Leningrad, Radiokhimiya 12, No 3, 1970, pp 455-460

Abstract: The quantitative aspects of the extraction of metals by dibasic aryl- and alkylphosphozic acids were studied and theoretically interpreted. It was found that the conventional treatment of experimental data does not suffice to elucidate the extraction mechanism for metals which form a strong association with the extractants. The equations derived were experimentally confirmed with the example of the extraction of europium by solutions of mono-n-octylphosphozic acid in various solvents.

1/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--POLYMERIZATION OF MONO N OCTYL PHOSPHATE IN NONPOLAR SOLVENTS -U-

AUTHOR-(02)-KOMAROV, YE.V., KOMAROV, V.N.

COUNTRY OF INFO--USSR

SOURCE--RADIOKHIMIYA 1970, 12(2), 297-302

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYMERIZATION, ORGANIC PHOSPHATE, SOLVENT ACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1491 STEP NO--UR/0186/70/012/002/0297/0302

CIRC ACCESSION NO--AP0135152

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0135152

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLYMN. OF MEICH SUB2)SUB7 O PO SUB3 H SUB2 (I) IN CCL SUB4 AND C SUB6 H SUB6 WAS STUDIED BY CRYOSCOPIC AND ISOPIESTIC METHODS. SOLNS. OF I IN NONPOLAR SOLVENTS WERE CHARACTERIZED BY A STRONG POSITIVE DEVIATION FROM IDEALITY. THIS MAY BE EXPLAINED BY HIGH ASSOCN. OF I IN NONPOLAR SOLVENTS, AND BY THE INFLUENCE OF THE WATER CONTENT OF SOLVENTS ON THE DEGREE OF POLYMN. OF I. THE D.P. OF I IN C SUB6 H SUB6 AT LOW H SUB2 O CONCN. WAS NEARLY THE SAME AS IN ANHYD. CCL SUB4. AT HIGH CONCNS. OF H SUB2 O THE D.P. OF I IN C SUB6 H SUB6 INCREASED, AND WAS 10-15 TIMES AS HIGH AS IN ANHYD. C SUB6 H SUB6. THE D.P. ALSO DEPENDED ON CONCN. OF I. A POSSIBL MECHANISM FOR THE EXTN. OF CATIONS BY MONOALKYL PHOSPHATES IS ALSO SUGGESTED.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PROPERTIES OF CADMIUM HEXAFLUOROSILICATE SOLUTIONS STUDIED BY A SALT CRYOSCOPIC METHOD -U-
AUTHOR-(02)-KRYLOV, V.N., KONAROV, YE.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 757-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SILICATE, CADMIUM COMPOUND, EUTECTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0714 STEP NO--UR/0078/70/015/003/0757/0759

CIRC ACCESSION NO--AP0126426
UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0126426

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AQ. 0.02-0.15M CASIF SUB6 SOLNS. IN 0.1-0.5M HNO SUB3 WERE STUDIED CRYOSCOPICALLY IN ICE-NH SUB4 CLO SUB4 EUTECTIC. CASIF SUB6 HYDROLYZES TO CA PRIME2 POSITIVE AND SIF SUB6 PRIME2 NEGATIVE. THE INSOL. CAF SUB2 FORMS ONLY IN SOLNS. CONTG. EITHER A LOW CONCN. OR NO HNO SUB3.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--MOLECULAR THEORIES OF SOLUTIONS AND EXTRACTION OF METALS AND ACIDS BY ASSOCIATING REAGENTS -U-
AUTHOR--KOMAROV, YE.V.

K

COUNTRY OF INFO--USSR

SOURCE--RADIOKHIMIYA 1970, 12(2), 312-18

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--EXTRACTIVE METALLURGY, COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0114 STEP NO--UR/0186/70/012/002/0312/0318

CIRC ACCESSION NO--AP0132407
UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132407

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A VARIANT OF THE MOL. STATISTICAL MODEL OF AN ORG. SOLN. (EXTN. SYSTEM), INVOLVING ASSOCD. REAGENTS OF THE TYPE ALKYLAMMONIUM SALTS OR ORGANOPHOSPHORIC ACIDS, IS PRESENTED. IN THE STATISTICAL THERMODYNAMIC EQUATIONS, SPECIFIC INTERACTIONS, SIZE AND SYMMETRY OF PARTICLES, AS WELL AS CHANGE IN THE MOL. FORCE FIELD OF THE MEDIUM INVOLVED IN THE CHEM. POTENTIAL, THE CHANGE IN FORCE FIELD BEING DUE TO ALTERATIONS IN THE COMPN. OF THE SYSTEM. ON THE BASIS OF THE EQUATIONS OBTAINED FOR THE SYSTEMS MONO,N,OCTYLPHOSPHORIC ACID COMPLEX CCL SUB4 AND TRIOCTYLAMMONIUM SALT-HNO SUB3 BENZENE, NUMERICAL EVALUATIONS OF THE LIMITING CONCNS. ARE GIVEN, WHERE CHANGES IN THE ACTIVITY COEFF. OF SEP. INDIVIDUALS MUST BE CONSIDERED IN THE INTERPRETATION OF THE DISTRIBUTION DATA.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--TYPES OF CONCENTRATION FUNCTIONS OF PARTITION COEFFICIENTS FOR METAL SALTS AND IONS DURING THEIR EXTRACTION BY ASSOCIATING REAGENTS -U-

AUTHOR--KOMAROV, YE.V.

COUNTRY OF INFO--USSR

SOURCE--RADIOKHIMIYA 1970, 12(2), 306-12

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--EXTRACTIVE METALLURGY, ION, BONDING PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0113 STEP NO--UR/0186/70/012/002/0306/0312

CIRC ACCESSION NO--AP0132406

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0132406
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PATTERN OF THE MECHANISM OF EXTN. OF METAL SALTS AND IONS BY ASSOCG. REAGENTS IS PRESENTED. WHEN ESTABLISHING THE COMPN. OF THE COMPDS. TO BE EXTD., THE STRENGTHENING OR WEAKENING OF BONDS IN THE ASSOC. BY MEANS OF IONS OR SALTS WHICH ARE INTRODUCED INTO THE ASSOC. MUST BE TAKEN INTO ACCOUNT. THE PRINCIPLES OF RIGOROUS INTERPRETATION OF THE EXTN. DATA FROM THE POINT OF VIEW OF INTERACTION IN THE ORG. PHASE ARE PRESENTED.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--MODEL FOR DESCRIBING THE EXTRACTION OF MONOBASIC ACIDS BY ALKYLAMMONIUM SALTS -U-

AUTHOR-(02)-KOMAROV, YE.V., KOMAROV, V.N.

COUNTRY OF INFO--USSR

SOURCE--RADIOKHIMIYA 1970, 12(2), 302-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMODYNAMICS, AMMONIUM NITRATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0112 STEP NO--UR/0186/70/012/002/0302/0306

CIRC ACCESSION NO--AP0132405

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132405

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MODEL DESCRIBING THE EXTN. OF MONOBASIC ACIDS (ESP. HNO SUB3) BY ALKYLAMMONIUM SALTS IS SUGGESTED. SOLVATE S SUBTAU .IHA IS FORMED IN THE ORG. PHASE WHEN A SOLN. OF MONOBASIC ACID HA IS EXTD. BY A ALKYLAMMONIUM SALT B; R AND I ARE THE NOS. OF ALKYLAMMONIUM AND ACID MOLS., RESP. THERMODYNAMIC EQUIL. CONST. OF THAT REACTION, K SUBTAU I, CAN BE EXPRESSED BY K SUBTAU I EQUALS BETA PRIMEI W SUBTAU I, WHERE BETA IS THE EQUIL. CONST. OF SOLVATE FORMATION IN THE ORG. PHASE, AND W SUBTAU I IS A STATISTICAL FACTOR WHICH DEPENDS ON NOS. OF REACTION SITES OF B SUBTAU ASSOC. CONCN. OF B SUBTAU .IHA IN THE ORG. PHASE MAY BE THEN EXPRESSED BY (B SUBTAU .IHA) EQUALS (BETA A) PRIMEI W SUBTAU I (B SUBTAU) GAMMA SUBTAU -GAMMA SUBTAU I, WHERE A IS THE ACTIVITY OF HA IN WATER PHASE, GAMMA SUBTAU AND GAMMA SUBTAU I ARE ACTIVITY COEFFS. OF B SUBTAU AND B SUBTAU .IHA IN THE ORG. PHASE, RESP.; LN GAMMA SUBTAU -GAMMA SUBTAU I EQUALS I SUBPHI (C SUBH, C SUBB), WHERE PHI(C SUBH, C SUBB) IS A FUNCTION OF THE TOTAL CONCN. OF HA AND B IN THE ORG. PHASE. EQUIL. CONST. BETA CAN BE EXPRESSED BY BETA EQUALS (C SUBH OVER C SUBB -C SUBH)A)E PRIME NEGATIVEPHI. FROM EXPTL. RESULTS TAKEN FROM THE LITERATURE, THE PARAMETER PHI LOG E FOR HNO SUB3 EXTN. CHANGES FROM 0.12 AT C SUBH -C SUBB EQUALS 0.1 TO 0.15 AT C SUBH -C SUBB EQUALS 1 AT A CONCN. OF TRI,N,OCTYLAMMONIUM NITRATE OF 1 MOLE-L., AND DECREASES LINEARLY WITH DECREASING C SUBB CONCN.

UNCLASSIFIED

USSR

KOMAROVA, E. A., Tashkent

"A Comparative Study by Various Methods of the Resistance of Microorganisms to Drugs"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 10, 1971, pp 43-46

Abstract: The resistance of 210 strains of Sh. sonnei and of 55 strains of diphtheria bacteria to various antibacterial drugs was investigated by three methods: 1) paper disks saturated with the drug, 2) diffusion of the drug from a well into agar, and 3) serial dilution of the drug in agar. The latter two methods proved better for testing Sh. sonnei and yielded the following figures representing the percentage of resistant strains: penicillin -- 93; streptomycin -- 83; levomycetin -- 93; oxytetracycline -- 87; oleandomycin -- 83; neomycin -- 53; furazolidone -- 44; and phthalazol -- 86. The disk method proved to be more reliable for testing the resistance of diphtheria bacteria, yielding the following percent results: penicillin -- 7.2; streptomycin -- 3.6; tetracycline -- 7.2; levomycetin -- 16.4; neomycin -- 3.6; and erythromycin -- 5.4. The findings indicate that the resistance of bacteria to drugs is increasing and that it is therefore necessary to test the strains isolated from each patient.

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USSR

UDC 591.58:595.7

KOMAROVA, G. F., DUBROVIN, N. N. (Lenin Moscow State Pedagogical Institute)

"Comparative Study of the Acoustic Signals of Two Sibling Species of Grasshoppers, Cherthippus dorsatus Zett. and Ch. dichrous Ev. (Orthoptera, Acrididae)

Zhurnal Obshchei Biologii, 1973, Vol 34, No 4, pp 571-574

Abstract: Comparison of the male calling songs indicated a considerable difference in the structure and duration of the sound sequences in the two subject species, and suggested that these should be separate species. For example, the call of Ch. dorsatus lasted 15-30 sec and consisted of 7-13 transmissions, repeated after an interval comparable with the length, with a frequency of about 0.4 per second. That of Ch. dichrous lasted 0.6-12 sec and consisted usually of 1 to 3 transmissions, followed by a minute or more of silence. The precopulation signals were continuously repeated transmissions, up to 200 and from 30 to 70, respectively. Oscillographic analysis showed the calling signal of Ch. dorsatus to consist of two parts, the length of the first being greater than that of the second; that of Ch. dichrous sharply increases at first and sharply drops at the end.

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1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--INDICES OF EXTERNAL RESPIRATION FUNCTION IN PATIENTS WITH CHRONIC NON SPECIFIC PULMONARY DISEASES -U-

AUTHOR-(02)-KOMAROVA, I.A., SOKOLOVSKAYA, M.V.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 5, PP 84-87

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RESPIRATION, RESPIRATORY SYSTEM DISEASE, LUNG, ENZYME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1739 STEP NO--UR/0475/70/000/005/0084/0087

CIRC ACCESSION NO--AP0129107

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129107

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROTEOLYTIC ENZYMES (TRYPSIN, CHYMOTRYPSIN, RIBONUCLEASE, DESOXYRIBONUCLEASE IN THE FORMS OF AEROSOLS AND TRYPSIN AND CHYMOTRYPSIN INTRAMUSCULARLY) WERE USED FOR THE TREATMENT OF 97 PATIENTS WITH CHRONIC NON SPECIFIC PULMONARY DISEASES. TREATMENT RESULTED BOTH IN AN IMPROVEMENT OF THE CLINICAL CONDITIONS AND INDICES OF EXTERNAL RESPIRATION FUNCTION. SIGNIFICANT IMPROVEMENT OF PNEUMOTACHOMETRIC DATA EVIDENCES THE ACTION PF PROTEOLYTIC ENZYMES ON THE MAIN PATHOGENETIC FACTOR IN THE DEVELOPMENT OF THESE DISEASES, DRAINAGE FUNCTION OF THE BRONCHI. FACILITY: PERVOGO MOSKOVSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--USE OF SEDIMENTATION ANALYSIS FOR STUDYING THE EFFECT OF THE MEDIUM ON THE DISPERSION OF COPPER POWDERS -U-

AUTHOR-(03)-KOMAROVA, I.A., KURINNOY, V.I., FIGUROVSKY, N.A.

COUNTRY OF INFO--USSR

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SUBJECT AREAS--MATERIALS

TOPIC TAGS--COPPER POWDER, ELECTROLYTIC COPPER, SEDIMENTATION, BIBLIOGRAPHY, ELECTRODEPOSITION, COMMINUTION, ACETONE, METHYL ALCOHOL, CARBON TETRACHLORIDE, TOLUENE, CYCLOHEXANE, DIELECTRIC CONSTANT, CHEMICAL DISPERSION

CONTROL MARKING--NO RESTRICTIONS

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PROXY REEL/FRAME--1990/1312 STEP NO--UR/0226/70/000/001/0006/0009

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2/2 023 UNCLASSIFIED PROCESSING DATE--020CT70

CIRC ACCESSION NO--AP0109396

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DISPERSING EFFECT OF THE MEDIUM ON A SUSPENSION OF ELECTROLYTIC CU POWDERS DEPOSITED FROM CUSO SUB4 SOLUTIONS AT 25DEGREESC WAS STUDIED ON THE BASIS OF CLASSICAL SEDIMENTATION ANALYSIS. MEDIA TESTED INCLUDED WATER, METHYL ALCOHOL, FURFURAL, ACETONE, CCl SUB4, CYCLOHEXANE, AND TOLUENE. THE DEGREE OF DISPERSION WAS DIRECTLY RELATED TO THE DIELECTRIC CONSTANT OF THE MEDIUM: E.G., FOR WATER THE MEAN PARTICLE SIZE WAS 7 MM, AND FOR TOLUENE 2 MM.

UNCLASSIFIED

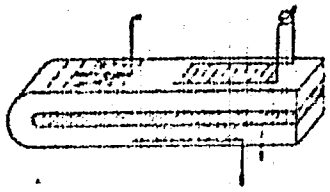
USSR UDC 621.374.5

KARINSKIY, S. S., KOMAROV, V. G., MONDIKOV, V. D., GOLIKOV, M. I., ROMANOV, L. N., KOMAROVA, I. S., KRISTININA, L. I.

"An Integrated Ultrasonic Single-Crystal Delay Line"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 15, May 71, Author's Certificate No 302808, Division H, filed 22 Sep 69, published 28 Apr 71

Translation: This Author's Certificate introduces an integrated ultrasonic single-crystal delay line for surface waves. The device contains a piezoelectric single-crystal acoustic line with a slot on one end which is filled with an absorber. The device also contains lattice-type two-phase receiving and transmitting converters. As a distinguishing feature of the patent, the delay time is increased by locating the converters on the upper and lower surfaces of the acoustic line, and by rounding the other end of the line with a radius of at least ten ultrasonic resonance wavelengths.



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USSR UDC 541.1 + 541.18 + 543.544.6

KOMAROVA, I. V., GALKINA, N. K., RUBINSHTEYN, R. N., and SENYAVIN, M. M., Academy of Sciences USSR, Institute of Geochemistry and Analytical Chemistry Imeni V. I. Vernadskiy, Moscow

"Design of a Ion-Exchange Water Demineralization Process"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 47, No 1, Jan 73, pp 124-129

Abstract: A method is proposed for the design of a process of ion-exchange demineralization of water over incompletely regenerated columns with separate ion exchange resin layers. The initial cycle of water purification over a freshly prepared, fully regenerated ion exchange resin is designed as a dynamics exchange of a substance in the intradiffusional area. The column regeneration and purification of water on the repeatedly studied, incompletely regenerated ion exchange resin was calculated by the layer-by-layer method. The stages are unified by coefficients representing relative decrease in the performance time of incompletely regenerated column in comparison to a fully regenerated one, as a function of the consumption and concentration of the regenerating solution.

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USSR UDC 541.18+621.133.712+62.505

KOMAROVA, I. V., RUBINSHTEYN, R. N., and SENYAVIN, M. M., Institute of Geochemistry and Analytical Chemistry Imeni V. I. Vernadskiy, Moscow

"Optimization Method for the Ion Exchange Water Demineralization Process"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, No 11, Nov 72, pp 2834-2837

Abstract: A method has been proposed for the optimization of the ion exchange water demineralization process based on a mathematical model of the process converted to economic criteria. The problem was solved on an digital computer system by one of the nonlinear programs using the approach of the most rapid passage. The conditions for optimal operations of a column have been shown to depend on the properties of the starting and purified water.

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UDC 537.53

USSR

GOLUBOVSKIY, Yu. B., KAGAN, Yu. M., and KOMAROVA, L. L.

"Atomic Temperatures and the Broadening of Spectral Lines in the Positive Column of a Discharge in Argon"

Leningrad, Optika i Spektroskopiya, Vol 35, No 1, Jul 73, pp 14 - 18

Abstract: The atomic temperature in the positive column of a discharge is valuable information for a variety of purposes. Previous attempts to determine or measure this have been made, but for argon the process was complicated by an attempt to determine a number of factors simultaneously, forcing the use of several simplifying assumptions. The present study involves only the determination of the temperature of atoms in the argon from experimental values of the radial fall of electron concentration and the value of the longitudinal electric field. This narrower approach avoids many difficulties encountered in a complete, theoretical treatment of the discharge parameters.

Measurements were made of the contours of spectral lines at 6965 and 7147 angstroms from an argon discharge.

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GOLUBOVSKIY, Yu. B., et al., Leningrad, Optika i Spektroskopiya, Vol 35, No 1, Jul 73, pp 14 - 18

Tables published by Davis and Vaughan in Astrophysical Journal, Vol 137, page 1302, were used to determine the width of the Lorentz portion of the contour, consisting of the apparatus width and a width related to pressure effects. The apparatus width was independently determined and eliminated. The width due to the interaction with charged particles was calculated on the basis of tables published by Griem in Physical Review, Vol 128, page 515. The results indicated that the observed widening was due to interactions with neutral atoms. The change was found to be a linear function of the concentration of normal atoms on the axis. The result was found to agree fairly well with theoretical values calculated by L. A. Luizova (Candidate's Dissertation, Leningrad State University, 1969).

The agreement of measured and calculated temperatures, as well as the linear relationship with the concentration of normal atoms, indicates the correctness of the calculated temperature.

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USSR

UDC 542.952.6+541.15

VLASOV, A. V., KOMAROVA, L. I., Corresponding Member of the Academy of Sciences USSR KORSHAK, V. V., MALAKHOVA, L. I., MIKHELEVA, G. A., TSETLIN, B. L., SHABLYGIN, M. V., Institute of Organo Elemental Compounds, Moscow, Academy of Sciences USSR; All-Union Scientific-Research Institute of Synthetic Fibers, Kalinin, State Committee for Chemistry USSR

"Production of Multilayer Graft-Polymerized Materials ("Pemosors") by Radiation Polymerization in the Gas Phase"

Moscow, Doklady Akademii Nauk SSR, Vol 193, No 3, 21 Jul 70, pp 615-617

Abstract: Multiple graft polymerization should lead to the formation of multilayered materials, in the opinion of the authors. A synthesis was developed for doubly grafted materials by gas-phase polymerization of various monomers to stretched polyethylene and polypropylene films and fibers. The graft polymerization was carried out by irradiating with X-rays substrates (of fibers and films and singly grafted materials) in the presence of unsaturated

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VLASOV, A. V., et al, Doklady Akademii Nauk SSR, Vol 193, No 3, 21 Jul 70, pp 615-617

monomer vapors. The following monomer pairs were so polymerized: acrylonitrile/vinylidene chloride, vinylidene chloride/acrylonitrile, vinylidene chloride/acrylic acid, acrylic acid/vinylidene chloride, vinyl chloride/vinylidene chloride, styrene/vinylidene chloride, methyl methacrylate/vinylidene chloride, vinylidene chloride/methyl methacrylate, acrylic acid/acrylonitrile. Films and fibers of a three-layer structure with minute particles between the layers were obtained. The orientation of the grafted layers was studied by IR spectroscopy. It was found that a singly grafted material will add a third layer whenever its first layer has a highly ordered structure (for instance, polyvinylidene chloride, polyacrylonitrile). The orienting effect of the grafted layer is retained even when it is quite thick. Formation of the new (third) layer begins in the interfibrillar channels of the intermediate (second) layer and the process follows the same scheme as the one in the gas-phase polymerization on the initial stretched substrate.

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VLASOV, A. V., et al, Doklady Akademii Nauk SSR, Vol 193, No 3, 21 Jul 70, pp 615-617

The passage of the orienting effect of the substrate on the formation of the third graft layer through a nonoriented intermediate layer may possibly be due to a repetition of the microrelief of the surface of the orienting original substrate or there may be a long-range effect of charged point defects.

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1/2 027 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--COPOLYMERIZATION OF STYRENE WITH DIKETENE -U-

AUTHOR-(04)-FRUNZE, T.N., SURIKOVA, M.A., KURASHEV, V.V., KONAROVA, L.T.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(2) 460-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COPOLYMERIZATION, STYRENE, KETONE, BENZOYL PEROXIDE, NITRILE, IR SPECTRUM, HETEROCYCLIC OXYGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/0325 STEP NO--UR/0459/70/012/002/0460/0466

CIRC ACCESSION NO--AP0111519

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0111519

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STYRENE (I) WAS POLYMD WITH DIKETENE (II) IN THE PRESENCE OF BZ SUB2 O SUB2 OR AZOBISISOBUTYRONITRILE. IR SPECTROSCOPY OF THE COPOLYMERS, PRODUCED IN YIELDS OF SMALLER THAN OR EQUAL TO 89PERCENT, SHOWED THAT UNITS OF STRUCTURE -CH SUB2 CHPH-, -CME:CHCO SUB2-, -CI:CH SUB2ICH SUB2 CO SUB2-, AND III ARE PRESENT. THE REACTIVITY RATIOS R SUB1 FOR I AND R SUB2 FOR II ARE 100 AND 0.008, RESP.

UNCLASSIFIED

Physical Properties

USSR

UDC:538.245

KALININ, V. M., DANILOV, M. A., KOMAROVA, L. K., TSEYTSLIN, A. M., Sverdlovsk Agricultural Institute

"Influence of Titanium on the Physical Properties of Iron-Nickel Invar Alloys"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 36, No 2, 1973, pp 310-315

Abstract: This work presents an experimental study of the influence of 0.72, 2.0, 2.6, 3.0 and 4.75 at.% Ti on I_s, T_c, resistivity ρ, magnetostriction λ_s, magnetostriction susceptibility of the paraprocess $\delta\lambda_p/\delta H$, lattice parameter a, E and thermoelastic coefficient γ of iron-nickel alloys over a broad range of compositions (up to 60 wt.% Ni). It is shown that all properties change strongly upon addition of titanium. The results are explained on the basis of the theory of Sidorov and Doroshenko considering the valence of titanium and its ability to form $(Ni, Fe)_3Ti$ near order.

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KOMAROVA, L.K.

AA0052390

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, 1-70

243430 SHIP'S TRANSMISSION comprising hydromechanical reversible reduction gear, with planetary stage, central gear train, reverse gear train, distributor and hydraulic clutch, differing in that the planetary stage has a crown, the pole of which is the driven link of the reduction gear. The sunwheel is connected to the central gear train, one gear of which is in contact with the forward and reverse wheels of the separator shaft respectively via the forward and reverse hydraulic clutch. A gear of the reverse gear train is connected to the reverse wheel of the distributor gear train, the central gear of which, being engaged simultaneously with the forward and reverse wheels of this train, serves as the driving link of the reduction gear. This enables fuller use to be made of the engine's power in reverse. In order to improve the coeff. of useful work of the installation during prolonged forward motion, the forward wheel of the distributor gear train is connected to a gear of the central gear train via a separating cam clutch.

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